DOCUMENT RESUME

ED 216 679 IR 010 153

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TITLE Computer Literacy for All High School Students.
PUB DATE 2 May 81
NOTE 26p.; Best copy available.

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS *Computer Assisted Instruction; *Computer Literacy; Geometry; High Schools; High School Students; Lesson Plans; Mathematics Instruction; *Microcomputers; *Programing

ABSTRACT

This description of how one high school in Wisconsin is using computer equipment and instructors to further computer knowledge and awareness among students, teachers, and adults of the community, details a two-week computer literacy unit taught to students enrolled in geometry classes. An outline of the unit is provided along with daily lesson plans, transparencies used, and daily homework work sheets. (LLS)

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COMPUTER LITERACY FOR ALL HIGH SCHOOL STUDENTS

by

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COMPUTER PROGRAMMING

Computers have a strong influence on our lives, their effect on us and our dependence on them will increase greatly in the next few years. Computers handle our financial affairs, control equipment and machinery in business, industry, and the home, retrieve stored information, and store a large amount of data about each of us. Every high school graduate must be aware of the computers' capabilities and applications in our world and be able to communicate with it. Homesteads computer equipment and instructors are involved in furthering computer knowledge and awareness in our district in the following ways.

I. THE MICROCOMPUTER AS AN OBJECT OF INSTRUCTION

Three sequential semester courses, Computer Programming I, II, III, are offered to students. The philosophy of these courses is to teach problem solving by using the computer, the object is not data processing. The student is directed to analyze the problem, develop an algorithm for its solution, code the process in computer language, communicate the code to the computer, and verify the results output by the computer. The majority of the assigned programs are related to the mathematics experience of the student with the addition of problems from number theory, statistics, and practical applications. In developing the program the student must totally understand the problem and communicate it to the computer. The computer does the computation relieving the student of this chore.

II. GEOMETRY TWO-WEEK COMPUTER LITERACY UNIT

Each student enrolled in Geometry takes a two week computer literacy unit in the computer room. Students are assigned in pairs to the microcomputers providing continuous interaction between the student and the micro as instruction proceeds. Instruction includes the history of computing and programming the computer. As a final project each student completes a program in which the name of a Geometric figure, whose area is desired, is entered followed by the appropriate dimensions whereupon the area is output by the computer. Approximately 90% of our students enroll in Geometry during their high school attendance.

III. TEACHER INSERVICE

Three sequential ten hour courses are offered to our teachers in computing. The first course "The Computer as an Instructional Tool in the Classroom" provides computer literacy and an introduction to computers in the classroom. Drill and practice, computer assisted instruction, and simulation software is run on the computer and examined.

In the second course "Programming the Computer" participants learn to communicate with the computer using the BASIC language.

"Developing Computer Material for Classroom Use" is the third course in which participants, through guided independent study, develop software for use in the classroom.

IV. ADULT RECREATIONAL COMPUTING

The computer facilities are provided to the adults of the community for ten evenings each semester thru the Recreation Department. Application software is examined and discussed and instruction in programming is given.

V. ELEMENTARY AND MIDDLE SCHOOL COMPUTER AWARENESS

A Microcomputer is taken to the elementry and middle schools and a class period of introduction to computing is given. These students then have access to the microcomputer for the day to further their computer awareness.

VI. APPLICATIONS TO DEPARTMENTS OTHER THAN THE MATHEMATICS DEPARTMENT

Software and hardware are provided for use by other departments in the school. Word Processing Software has been purchased and is made available to the Business Department. Simulations for the Social Studies and Science Department are also used.

VII. COMPUTER HARDWARE

The computer hardware that is available to students in the Computer Center, Room 811 is:

A. Texas Instruments Programmable Calculators

1. 2 TI-58C calculators with printers
2. 1 TI-59 calculator with printer

B. Commodore Business Machines

1. 8 PET 8K Microcomputers
2. 1 Printer

C. Radio Shack

1. 5 TRS-80 16K Microcomputers
2. 3 16K Expansion Interfaces
3. 4 Disk Drives
4. 1 Line Printer II
5. 1 Quick Printer

Homestead's Geometry Computer Literacy Unit

One goal of Homestead's Mathematics Department is: To have each student gain computer programming experience during his high school attendance.

To implement this goal beginning in the 1980-81 school year each student in Geometry receives a two week computer Literacy Unit. If is felt that this can be done without detracting significantly from the Geometry curriculum and will reach approximately 90% of our students.

Title IV funds provided six microcomputers last year to add to the 2 we had. District funds and Commodore's buy-two-get-one-free program provided 3 additional micros.

Geometry students are assigned in pairs to the machine providing for continuous interaction between student and micro as instruction proceeds. Each student completed, as a final project, a program in which the name of a figure whose area is desired is input and it correctly outputs the area and asks if program is to be run again.

Two Week Geometry Literacy Unit Outline

A. Communicating with a computer
   1. History of computing devices and computers
   2. Binary, on and off, the 0's and 1's of the machine
   3. BASIC the communccation median

B. Machine Operation and Control Commands

C. Computer Arithmetic
   1. order of operations
   2. hierarchy of operations
   3. variable names

D. BASIC commands
   1. First program - area of a rectangle
   2. PRINT
   3. Numeric INPUT
      a. Combine PRINT and INPUT to prompt users
   4. Second program - Program equations involving four or five variables INPUT then PRINT result (x+y)/(Z+W)
   5. String INPUT
   6. IF-THEN
      a. Counting
      b. Test for string input

E. Area Programs - Write a program to find the area of:
   1. Rectangle
   2. Square
   3. Rhombus (using diagonals)
   4. Parallelogram
   5. Triangle
   6. Trapezoid
   7. Equilateral Triangle
   8. Regular Polygon
   9. Circle

F. Final Project - A program to INPUT type of figure, select proper steps to calculate area, output area and ask if program is to be run again.

Homework problem sheets are assigned to provide practice in operations, variables, and use of commands. A test for evaluation is given the last day.

```
10 INPUT"WHAT FIGURE DO YOU WANT TO FIND THE AREA OF ";A$
20 IF A$="RECTANGLE"THEN200
30 IF A$="SQUARE"THEN300
40 IF A$="PARALLELOGRAM"THEN400
50 IF A$="TRIANGLE"THEN500
60 IF A$="EQUILATERAL TRIANGLE"THEN600
70 IF A$="RHOMBUS"THEN700
80 IF A$="TRAPEZOID"THEN800
90 IF A$="REGULAR POLYGON"THEN900
100 IF A$="CIRCLE"THEN1000
110 PRINT "I DO NOT UNDERSTAND YOUR ANSWER"
120 GOTO10
200 INPUT "WHAT IS THE BASE AND THE HEIGHT";B,H
210 LET A=B*H
220 PRINT "THE AREA IS ";A
230 GOTO5000
300 INPUT "WHAT IS THE LENGHT OF ONE SIDE ";S
310 LET A=S↑2
320 PRINT "THE AREA IS ";A
330 GOTO5000
400 INPUT "WHAT IS THE BASE AND THE HEIGHT ";B,H
410 LET A=B*H
420 PRINT "THE AREA IS ";A
430 GOTO5000
500 INPUT "WHAT IS THE BASE AND THE HEIGHT ";B,H
510 LET A=.5*(B*H)
520 PRINT "THE AREA IS ";A
530 GOTO5000
600 INPUT "WHAT IS THE LENGHT OF ONE SIDE ";S
610 LET A =S↑2*3↑.5/4
620 PRINT "THE AREA IS ";A
630 GOTO5000
700 INPUT "WHAT IS THE LENGTH OF A DIANGONAL ";D1,D2
710 LET A=.5*(D1*D2)
720 PRINT "THE AREA IS ";A
730 GOTO5000
800 INPUT "WHAT IS THE LENGTH OF THE BASES ";B1,B2
810 INPUT "WHAT IS THE HEIGHT ";H
820 LET A=.5*H*(B1*B2)
830 PRINT "THE AREA IS ";A
840 GOTO5000
900 INPUT "WHAT IS THE NUMBER OF SIDES ";N
910 INPUT "WHAT IS THE LENGTH OF ONE SIDE ";L
920 INPUT "WHAT IS THE LENGTH OF APOTHEM";A
930 LET P=N*L
940 LET A=.5*A*P
950 PRINT "THE AREA IS ";A
960 GOTO5000
1000 INPUT "WHAT IS THE RADIUS";R
1010 LET A=3.1415927*R↑2
1020 PRINT "THE AREA IS ";A
1030 GOTO5000
5000 INPUT "DO YOU WANT TO DO MORE PROBLEMS (YES OR NO)";B$
5010 IF B$= "YES" THEN 10
5020 PRINT "GOOD-BYE"
5030 END
```

DAILY LESSON PLANS

This curriculum unit was developed by Robert Orth and Patrick Hopfensperger of the Homestead Mathematics Department as a curriculum project during the summer of 1980.

The magazine articles referred to are from the February 20, 1978 issue of TIME:

"The Age of Miracle Chips" pages 44 & 45

"Business: Thinking Small" pages 50-53

"Science: The Numbers Game" pages 54-58

Information on the history of computers was obtained from: Poirot & Groves Computer Science For The Teacher - Sterling Swift Publishing Co., P.O. Box 188, Manckaca, Texas 78652 $10.95

Transparencies referred to as "Spencer" are taken from: Spencer, Donald D. Teachers Manual For BASIC - A Unit For Secondary Schools, Camelot Publishing Co., P.O. Box 1357, Ormond Beach, Fla. $7.95

Lesson Plan - Day 1

1. Review article "THE AGE OF MIRACLE CHIP" that was assigned the previous day
2. Run a "canned" program
3. Explain the word BASIC and what is seen on the screen when it is first turned on.
4. Brief history
   slides
   comment on each slide
5. Intorudce System Commands
   Use overhead Day 1-1
6. Have students sit at machine and type in program (Overhead Day 1-2)
   Use the program to review system commands
7. Assing: Read article "Business: Thinking Small"

Lesson Plan - Day 2

1. Comment on article "Business: Thinking Small"
2. Using overhead Day 2-1
   Explain BASIC statement
      Line numbers
      Variables
      Operations → order of operations
         (overhead Day 2-2) Spencer 32
         (overhead Day 2-3) Spencer 34
         (overhead Day 2-4) Spencer 33
      Program commands
        (Overhead Day 2-5)
3. Machine work
   Have students type program from overhead Day 2-6
   Make corrections

   Introduce INPUT
   Replace lines 20 & 30 with
      20 INPUT X
      30 INPUT Y
4. Assign: Worksheet 2-1

Lesson Plan - Day 3

1. Correct Assign Worksheet 2-1 (overhead)
2. Use overhead Day 3-1
   Explain PRINT
      messages
)
        .
)
   Explain INPUT "message"
   Explain INPUT
        combine lines 20 and 30
3. Machine work
   Have students write program on Overhead Day 3-2
   Supplementary Problems
      4 overheads (Spencer 29, 47, 43, 45)
4. Assign: Worksheet 3-1

Lesson Plan - Day 4

1. Correct assign: Worksheet 3-1 (overhead)
2. Hand out Worksheet 4-1
   The day is spent writing and running these programs
3. Assign: Worksheet 4-2

Lesson Plan - Day 5

1. Cover assignment Worksheet 4-2 (overhead)
2. Use overhead Day 5-1
   Have students write and run this program

   Answer is on Overhead Day 5-2
3. Use this program to discuss GO TO
4. Hand out Worksheet 5-1
   Students must save these programs
5. Assign: Worksheet 5-1

Lesson Plan - Day 6

1. Correct assignment worksheet 5-2 (overhead)
2. Students will work on writing and running programs from Worksheet 5-1
3. Extra Problems Worksheet 6-1

Lesson Plan - Day 7

1. Use overhead Day 7-1
   run and explain counting
2. Introduce IF-THEN (overhead Day 7-2)
   Change program on overhead day 7-1

```
35 IF C=10 THEN 50
```

   Change again

```
17 INPUT "ENTER HOW FAR YOU WANT TO COUNT";N

35 IF C=N THEN 50
```

3. Use Overhead Day 7-3 how to apply count to triangle problems
4. Use Overhead Day 7-4 using IF-THEN as decision-maker
5. Assign: Worksheet 7-1

Lesson Plan - Day 8

1. Correct assignment worksheet 7-1 (overhead)
2. Introduce A$
   Use overhead Day 8-1

   Build this program
   Use Overhead Day 8-2 ⟹ Answering "YES" or "NO"

   Overhead Day 8-3 ⟹ Complete program
3. Start writing big program using Worksheet 5-1
4. Assign: Read article "Science: THE NUMBERS GAME"

Lesson Plan - Day 9

1. Machine work to write last program
   (copy included)

Lesson Plan - Day 10

1. Using overheads on MEMORY
2. Review for test
   Use Worksheet 10-1
   Answers on Overhead

Lesson Plan - Day 11

test (3 forms included)

TRANSPARENCIES USED

Day 1-1

Clear Screen

TRS-80	PET
Clear	Shift + Clr Home

Enter Information

TRS-80	PET
Enter	Return

O Ø

Letter	Number
O	Ø

System Commands

New

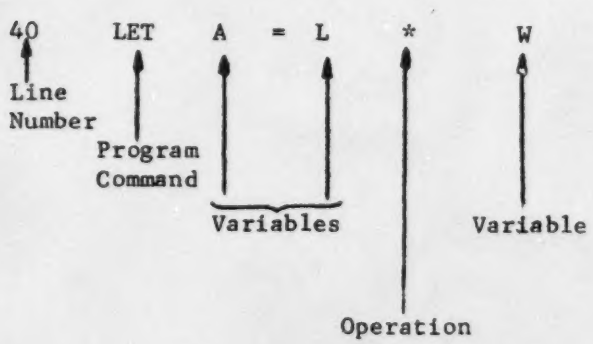
List

Run

Day 1-2

```
10 REM     Area of a rectangle
20 LET     W = 5
30 LET     L = 8
40 LET     A = L*W
50 PRINT   "The area of a rectangle is";A
60 END
```

Day 2-1



Day 2-5

Command	Meaning
REM	(Remark) Statement for programmers use. It will not print out during program operation unless the program is listed.
PRINT	Is used to have the computer print.
LET	The LET command assigns a value to a variable.
END	Tells the computer the program ends.

Day 2-6

```
10   REM  Addition program
20   LET  X = 5
30   LET  Y = 8
40   LET  Z = X + Y
50   END
```

Day 3-1

```
10   REM  Addition
20   INPUT  X
30   INPUT  Y
40   LET    Z = X + Y
45   PRINT Z
50   END
```

Day 3-2

Given the length and width of a rectangle, write a program to calculate the perimeter. Use REM, INPUT, and END in the program.

$$P = 2(L+W)$$

```
10 REM    Perimeter of rectangle
20 INPUT  "What is the length and
          width";L,W
30 LET    P = 2*(L+W)
40 PRINT  "The perimeter is";P
50 END
```

Day 5-1

Given the base and height of a triangle, write a program to cllculate the area.

$$A = \frac{1}{2} bh$$

Run the program using the following values:

BASE	HEIGHT
4	5
111	213
7.82	6.ØØØ1
$\frac{1}{4}$	5.2
5368	11214

Day 7-1

```
10 REM    Counting
15 LET    C = Ø
20 LET    C = C+1
30 PRINT  C
40 GOTO   2Ø
50 END
```

Day 7-2

IF - THEN Statements

```
10 IF  A = 6   THEN   200
```

condition — location

Two Uses

1. Loop breaker
2. Decision maker

Day 7-3

Given the base and height of a triangle, this program will find the area of five different triangles.

```
10 REM    Area five different tri-
           angles
20 INPUT  "What is the base and
          height";B,H
25 LET    C = C+1
30 LET    A = (1/2)*B*H
40 PRINT  "The area is";A
42 IF     C=5  THEN 50
45 GOTO   20
50 END
```

Day 7-4

```
10 REM    Driving
20 INPUT  "What is your age";A
30 IF     A=16  THEN 60
40 PRINT  "You are not sweet
          sixteen!!"
50 GOTO   70
60 PRINT  "You are old enough to
          drive!!"
70 END
```

Day 8-1

```
10 PRINT  "What is your name";
20 INPUT  A$
30 PrINT  "HI";A$;" My Name is R2D2"
40 END
```

Day 8-2

```
10 PRINT   "What is your name";
20 INPUT   A$
30 PRINT   "Hi ";A$;" My name is R2D2"
40 PRINT   "Do you want me to do a problem
            (Yes or No)";
50 INPUT   B$
60 IF      B$="No" THEN 150
70 PRINT   "I will find the perimeter of a rectangle."
80 INPUT   "What is the length and width";L,W
90 LET     P=2*(L+W)
100 PRINT  "The perimeter is";P
150 END
```

Day 8-3

```
10 PRINT   "What is your name";
20 INPUT   A$
30 PRINT   "Hi ";A$;"  My name is R2D2."
40 PRINT   "Do you want me to do a problem
            (Yes or no)";
50 INPUT   B$
60 IF      B$="No"  THEN 150
70 PRINT   "I will find the perimeter of a rectangle."
80 INPUT   "What is the length and width";L,W
90 LET     P=2*(L+W)
100 PRINT  "The perimeter is";P
110 PRINT  "Do you want to do another problem
            (yes or no)";
120 INPUT  C$
130 IF     C$ = "No"  THEN 150
140 GOTO   80
150 PRINT  "Good-bye";A$
160 END
```

DAILY HOMEWORK WORK SHEETS

Name_____

Worksheet 2-1

Write YES or NO to tell whether each of the following is a legal BASIC variable name.

1. A
2. Z23
3. TØ
4. ZO
5. PT
6. 7X
7. R + S
8. SUM
9. (R)
10. T.

Evaluate the following

11. 5*7-2
12. 1/2/2
13. -2*3/2*3
14. 1 + 2↑3*2
15. 1 + 2↑(3*2)
16. 2↑ 2↑ 3
17. 3*4 - 9↑.5
18. 4↑1/2
19. 8↑(1/3)
20. (2+ (3*4-5))↑.5

What would be the print out of the following programs

21.
```
10 LET B = 5
20 LET D = 7
30 LET A = (B+D)/2
40 PRINT "THE ANSWER IS", A
50 END
```

22.
```
10 INPUT Q
20 INPUT M
30 LET P = Q*M/3
40 PRINT P
50 END
```
(Assume INPUT Q=3 and M=9

Name_____

Worksheet 3-1

For A=2, B=3, and X=2, evaluate each of the following:

1. A+B/X

2. B↑A/X

3. B↑(A/X)

4. (A+B)/2*X

5. 1-A/A/A

Write a single BASIC statement that will compute each quantity. Start each statement with 10 LET Z =

6. 3b-2c

7. $X + Y^3$

8. $\frac{7}{-ab}$

9. $\left(\frac{a+b}{c+d}\right)^2 + X^2$

10. $\sqrt{X^2 - y^2}$

What would be the print out for each program below?

11.
```
 5 REM COMPUTER
10 INPUT J,K
20 LET S = J+K -J*K
30 PRINT S
40 END
```
(J=10, K=3)

12.
```
15 INPUT "WHAT ARE THE NUMBERS"
   ;X,Y
25 LET Z = X-3*Y
45 PRINT "THE ANSWER IS", Z
50 END
```
(X=6, Y=2)

13. Write a program to find the volume of a cylinder using the formula:

$V = \pi r^2 h$

You will INPUT R and H and have the computer calculate V. Use 3.14159 for π.

Name_____

Worksheet 4-1

Write and run a program which will do each of the following:

1. A + B + C + D = E

2. X - Y - Z = M

3. Add two values and multiply the sum by a third value

4. Enter four values. Add the first two values, subtract the fourth value from the third, multiply the sum and difference.

5. Enter three values. Add the first two, divide the sum by the third value.

Name_____

Worksheet 4-2

Write each of the following in a LET statement

1. $\sqrt[3]{\frac{R}{2T}}$

2. $\left(\frac{X^2}{6}\right)^{N+1}$

3. $C = \sqrt{A^2 + B^2}$

4. $y = 4X^3 - 6X^2 + 2X + 17$

5. $Z = X - \frac{P+Q}{4}$

Correct the following programs

6.
```
10 INPUT  X;Y
20 LET P=X*Y
30 PRINT X
40 END
```

7.
```
20 LET Q = MN+3
30 PRINT "Q"
40 END
```

8.
```
10 INPUT WHAT IS THE NUMBER, S
20 LET T = S↑2
30 PRINT "THE ANSWER IS T"
40 END
```

9. Write a program to convert degrees Celsius to degrees Fahrenheit

   $F = 9/5\ C + 32$

10. Write a program to compute a baseball player's "fielding percentage". INPUT

    P (put-outs)
    A (assists)
    E (errors)

    Use the formula $F = \frac{P + A}{P + A + E}$

Name_____

Worksheet 5-1

PLEASE SAVE THESE PROGRAMS

Write and run a program for each of the following formulas:

Area of rectangle $A = bh$

Area of square $A = s^2$

Area of parallelogram $A = bh$

Area of triangle $A = \frac{1}{2}bh$

Area of equilateral triangle $A = \frac{s^2\sqrt{3}}{4}$

Area of Rhombus $A = \frac{1}{2}d, d_2$

Area of trapezoid $A = \frac{1}{2}h\ (b, + b_2)$

Area of regular polygon $A = \frac{1}{2}ap$ WHERE $p = nl$

Area of circle $A = \pi r^2$

Name_____

Worksheet 5-2

Write the out-put of this program

```
 10 PRINT "THE PROGRAM COMMAND 'GO TO' IS USED"
 20 GO TO 110
 30 PRINT "THE PET IS A GREAT MICROCOMPUTER"
 40 PRINT "REDIRECT THE ORDER OF EXECUTION"
 50  GO TO 180
 60 PRINT "PRINT COMMANDS CAUSE PRINTING"
 70 PRINT "TO TAKE PLACE ON THE VIDEO DISPLAY"
 80 GO TO 20
 90 PRINT "CAUSE THE PROGRAM TO JUMP FORWARD"
100 GO TO 130
110 PRINT "TO"
120 GO TO 40
130 PRINT "OR BACKWARD"
140 GO TO 200
150 PRINT "THE GO TO COMMAND IS POWERFUL"
160 PRINT "SINCE IT IS USED TO MODIFY PROGRAM FLOW"
170 GO TO 150
180 PRINT "USING GO TO WILL ALLOW YOU TO"
190 GO TO 90
200 END
```

Name_____

Worksheet 7-1

1. What would the print out of the following programs be?

A)
```
10 LET C = 0
20 LET C = C + 4
30 PRINT C
40 GO TO 20
50 END
```

B)
```
10 LET N = 0
20 LET N = N + 2
30 PRINT N
40 IF N = 10 THEN 60
50 GO TO 20
60 END
```

C)
```
10 INPUT "WHAT ROOM ARE YOU IN"; R
20 IF R = 811 THEN 50
30 PRINT "YOU MUST NOT KNOW WHERE YOU ARE"
40 GO TO 60
50 PRINT "CONGRATULATIONS! YOU MADE IT TODAY"
60 END
```

Assume INPUT

1. R = 811
2. R = 812

2. Write a program whose output would look like this:

```
? 12
  3
  6
  9
 12
```

Extra Problems

Worksheet 6-1

1. Write a program that will compute each car's miles per gallon.

Car	Miles	Gallons Used
1	420	25.1
2	305	21.5
3	227	14.9
4	195	15.2

2. Write a program to calculate the withholding tax on a weekly salary. Withholding tax equals 14% of the difference between a man's gross pay and $13 times the number of dependents he claims.

Worker	Gross Pay	Number of Dependents
1	$225	2
2	178	1
3	528	4
4	378	3

Name_____

Worksheet 10-1

Evaluate the following:

1. 2 + 3 * 4
2. 24/2 * 3
3. 3- 4 * 3/6
4. 2 ↑ 4
5. 2↑3 + 4↑2
6. 5 - (12 * 3) ↑ (1/2)
7. (12 * 4/3) ↑ (1/2)
8. 2 + 3 - 4 * 5/10↑2
9. (2 + 3 - 4) * 5/10↑2
10. -3 * 4 - 12/6

Write each of these expressions in a LET statement

11. $A = 6x - t^2$

12. $y = 2X^2 - X + 1$

13. $Z = \left(\frac{X^2}{6}\right)^{3X}$

14. $P = \sqrt{\frac{r}{2t}}$

15. $A = 2\pi rh + \pi r^2$

Correct the errors in the following programs

16.
```
10 INPUT PQ
20 LET PQ = 5 * X
30 PRINT "PQ"
40 END
```

17.
```
10 INPUT "WHO'S MINDING THE STORE";
   A$
20 PRINT "OK, IT'S YOU";A
30 INPUT "DO YOU WANT TO CONTINUE
   OUR RELATIONSHIP";B
40 IF B$ = "YES" THEN 30
50 PRINT "SO LONG"
60 PRINT "I'M GLAD"
70 END
```

18. Write a program that will ask for the person's name and then calculate the perimeter of a triangle.

19. Write a program which will find the surface area of a sphere ($A = 4 \pi r^2$), then will ask the person if they want more problems.

20. Write a program which will count to 10 by two's.

21. What does it mean if a computer has 8K memory?

Test A BASIC Name_____

1. For each of the following expressions, write a single BASIC statement that will compute each quantity.

a) AB 10 LET Z =

b) A(B + C) 10 LET Z =

c) $\sqrt{N}$ 10 LET Z =

d) $\frac{1}{3}$ C (A + B) 10 LET Z =

e) $\left(\frac{a+b}{c+d}\right)^2 + X^2$ 10 LET Z =

2. If A = 3, B = 5 and C = 2, what value is assigned to X by each of the following LET statements?

a) 10 LET X = A/B * C

b) 10 LET X = A + B/C + 7

c) 10 LET X = (A + B) ↑ 2/(B-C) ↑ 2

d) 25 LET X = (A * B - C ↑ 3) ↑ (1/2)

e) 35 LET X = B + A/C

f) 45 LET X = A ↑ 3 + B ↑ 2 - C

3. The computer uses what number system?

4. Who is credited with inventing the first machine that could be called a computer?

5. What does it mean if a computer has 16K memory?

6. Write a program to find the total area of a right circular cylinder. The formula is: $TA = 2\pi rh + 2\pi r^2$ ($\pi = 3.1415$)

7. Write a program that will count from 1 to 10.

8. Write a program which will find the number of degrees in each angle of a regular polygon, given the number of sides. The formula is: $S = \frac{(n-2)\ 180}{n}$

   At the end of the program have it ask if there are more problems to work.